
Commonwealth of Virginia

Enterprise Information Architecture

Order to Payment Data Standard

Version 1.4a
December 1, 2009
March 25, 2010

Note: This version has had the compliance section removed since that section is less certain than the rest of the document. This release is certainly not final but is available for review and comment.

Authors and Contributors:
Order to Payment Data Owners as listed in this document

Making comments on components via On-line Review and Comment Application (ORCA)

To comment on this standard and its components listed below please do the following:

1. For comments on this document, use the standard ORCA comment process and indicate what page and line the comment applies to.
2. For the other three components listed below, attach the comment to the line in this document which contains the link to the other component. Try to be descriptive enough so someone else can find the original text.

Feel free to contact Nadine Hoffman, John Morgan, or any of the people listed in the data steward section above.

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Order to Payment Data Standard Owners

The Order to Payment vendor data standard owners shall have authority for the interpretation and application of this standard. The owners responsible for the development and ongoing maintenance of the Commonwealth's Order to Payment Data Standard are as follows:

- Division of Purchases & Supply (DPS) – Ron Bell
- Department of Accounts (DOA) – David VonMoll

The Data Stewards associated with each agency are as follows:

- DPS – Bob Sievert and Becky Barnett
- DOA – Randy McCabe and Kim White

The VITA Enterprise Application Division (EAD) has supported the development of the Order to Payment data standard and has reviewed it for completeness and accuracy according to data management best practices. The EAD resources responsible for supporting the Order to Pay standard are as follows:

- VITA EAD – Peggy Feldmann, Chief Applications Officer
- VITA EAD – Nadine Hoffman, Data Manager
- VITA EAD – John Morgan, Enterprise Data Architect

Record of Changes

Version	Date	Description of Change	Contact
1.0	12-2009	Initial Version	Jan Fatouros
1.1	1/25/2010	Added comments about DOA's efforts on chart of accounts Added detail about how change orders work Replaced Figure 1 - Order to Payment Process Replaced Figure 2 – Ordering Data Model and changed page layout to landscape. Added record of change section	John Morgan
1.2		VOID	
1.3	2/4/2010	Replaced Figure 1 – Order to Payment Process Removed line in ERM overview stating that “this standard intends to change the common practice of accounting for a the whole requisition in a single year. Added detail about multi-fiscal year accounting. Removed Implementation Strategies which will be in a separate document.	John Morgan
1.4	3/4/2010	Changed definitions to be consistent with Vendor Standard. Added sentence at the beginning of Data Standard Owners section. Reformatted.	John Morgan

Components of the Vendor Data Standard

The Order to Payment Data Standard consists of the following components:

1. A business narrative describing the standard (this document) posted on ORCA.
2. A drillable data model which can be viewed by going to [LINK](#)
3. Data definition reports derived from the data model which can be viewed by going to [LINK](#)
4. An implementation guide posted on ORCA.

Order to Payment Data Standard Background

All Virginia public bodies are responsible for complying with Code of Virginia Sections [2.2-4300](#) thru [2.2-4377](#) referred to as the Virginia Public Procurement Act. Code of Virginia Section § 2.2-1110 assigns responsibility for non-technology procurement to the Department of General Services, Division of Purchases and Supply (DPS). Code of Virginia Section § 2.2-2010 assigns responsibility for technology procurement to The Virginia Information Technologies Agency (VITA). This section also empowers VITA to “Develop statewide technical and data standards for information technology and related systems to promote efficiency and uniformity” and to “Direct the establishment of statewide standards for the efficient exchange of electronic information and technology, including infrastructure, between the public and private sectors in the Commonwealth”

In March 2001, Virginia implemented eVA , the state’s enterprise procurement program, to streamline and better manage state purchasing activities, and to provide transparency and accountability to the general public. eVA development focused on automating procurement activities in a way that allowed the state to better manage its vendor list and buying power to obtain more favorable prices for the goods and services it purchases. State agency procurement agents, as well as businesses desiring to sell to the state, are required to use eVA.

The Department of Accounts (DOA) is responsible for state agency compliance with *Code of Virginia*, Sections 2.2-4347 through 2.2-4356 and 2.2-5004 referred to as the Prompt Payment Statutes. The Prompt Payment Statutes promote sound cash management and improved vendor relationships by ensuring timely payments for goods and services. Section 2.2-4347 requires state agencies that acquire goods and services, or conduct business through contractual agreements with nongovernmental and privately-owned businesses, to pay by the "required" payment due date for delivered goods and services.

Effective July 1, 2009, *Code of Virginia* section 2.2-1115 was amended by the addition of section 2.2-1115.1 referred to as Standard Vendor Accounting Information. This statute requires the Director of Purchases and Supply (The Division), the State Comptroller (Department of Accounts), and the Virginia Information Technologies Agency to develop and maintain data standards for use by all agencies and institutions for the purchase and payment of goods and services.

§ 2.2-1115. Execution of contracts; payment for purchases; violations.

- A. All contracts entered into by the Division shall be executed in the name of the Commonwealth.
- B. All purchases made by or through the Division shall be paid for in the same manner and out of the same funds as if the purchase had not been made by or through it.
- C. The Division shall maintain a system of accounting prescribed by the State Comptroller. All moneys collected by the Division shall be paid promptly into the state treasury and reported to the State Comptroller for appropriate credit.

- D. The Comptroller shall not issue any warrant upon any voucher issued by any using agency covering the purchase of any material, equipment or supplies, when such purchases are made in violation of any provision of this article.
- E. Intentional violations of the centralized purchasing provisions of this article by any using agency, continued after notice from the Governor to desist, shall constitute malfeasance in office, and shall subject the officer responsible for violation to suspension or removal from office, as may be provided by law in other cases of malfeasance

§ 2.2-1115.1. Standard vendor accounting information.

- A. *The Division, the Virginia Information Technologies Agency, and the State Comptroller shall develop and maintain data standards for use by all agencies and institutions for payments and purchases of goods and services pursuant to §§ 2.2-1115 and 2.2-2012. Such standards shall include at a minimum the vendor number, name, address, and tax identification number; commodity code, order number, invoice number, and receipt information; and other information necessary to appropriately and consistently identify all suppliers of goods, commodities, and other services to the Commonwealth. The Division, the Virginia Information Technologies Agency, and the State Comptroller shall annually review and update these standards to provide the Commonwealth information to monitor all procurement of goods and services and to implement adequate controls to pay only authorized providers of goods and services to the Commonwealth.*
- B. The Division and the Virginia Information Technologies Agency shall submit these standards to the Information Technology Investment Board in accordance with § 2.2-2458 for approval as statewide technical and data standards for information technology.

VIRGINIA ACTS OF ASSEMBLY – 2009 SESSION; CHAPTER 758, 3 – That the Department of General Services, the Virginia Information Technologies Agency, and the State Comptroller shall submit to the Information Technology Investment Board the standards required pursuant to § [2.2-1115.1](#) of this act by December 1, 2009. The Department of General Services and the Virginia Information Technologies Agency shall undertake to use these standards in the Commonwealth's enterprise electronic procurement system upon approval by the Information Technology Investment Board and make the standards available for use by all agencies and institutions by July 1, 2010. After July 1, 2010, the Department of General Services shall provide purchasing data from the Commonwealth's enterprise electronic procurement system, to the extent it is available, at least quarterly for inclusion in the Auditor of Public Accounts' searchable database established pursuant to § [30-133](#) of the Code of Virginia. All agencies and institutions that use the standards developed pursuant to this act that have not previously reported data to the Auditor of Public Accounts through the Commonwealth's enterprise electronic procurement system shall, to the extent practicable, provide such data to the Auditor of Public Accounts at least quarterly beginning after July 1, 2010.

Scope

This standard defines order to payment information that is required to support the ordering and payment of goods and services pursuant to Code of Virginia §§ 2.2-1115. During the development of this data standard, the owners acknowledged that current application constraints may preclude full adoption of this standard by agencies and institutions with existing financial systems, but with some modifications to existing business practices, information quality and transparency can be greatly improved across all agencies and institutions. This standard requires all agencies and institutions to capture information about purchase orders, receipt of goods and services, and the account distribution of payments made for these purchases. For the purpose of this standard, the order to payment process includes requisitioning, ordering, receiving, and vouchering of a good or service that is governed by the Virginia Public Procurement and

Prompt Payment statues. Specifically excluded from this standard are purchasing transactions for sourcing activities, contracts, catalogs that are used to support ordering, and workflow approval processes and fiscal transactions for electronic invoices, warrants, EDI payments, and 1099 reporting. Subsequent standards in this series shall define additional information requirements for these purchase and fiscal transactions.

The order to payment entity relationship model and its associated data dictionary, which are included by reference, define the information requirements for the order to payment process. This standard applies to all agencies and institutions.

During the required annual review and update processes the Division of Purchases and Supply (DPS), the Virginia Information Technologies Agency (VITA) Enterprise Application Division (EAD), and the Department of Accounts (DOA) will update these standards in an effort to provide the Commonwealth information to monitor all procurement of goods and services and to implement adequate controls to pay only authorized providers of goods and services to the Commonwealth.

It is the intent of this standard to fully support the procurement and fiscal policies contained in the Commonwealth Accounting Policies and Procedures Manual, the Agency Procurement and Surplus Property Manual, the Capitol Outlay Manual, and the IT Procurement Policy Manual: Buy IT.

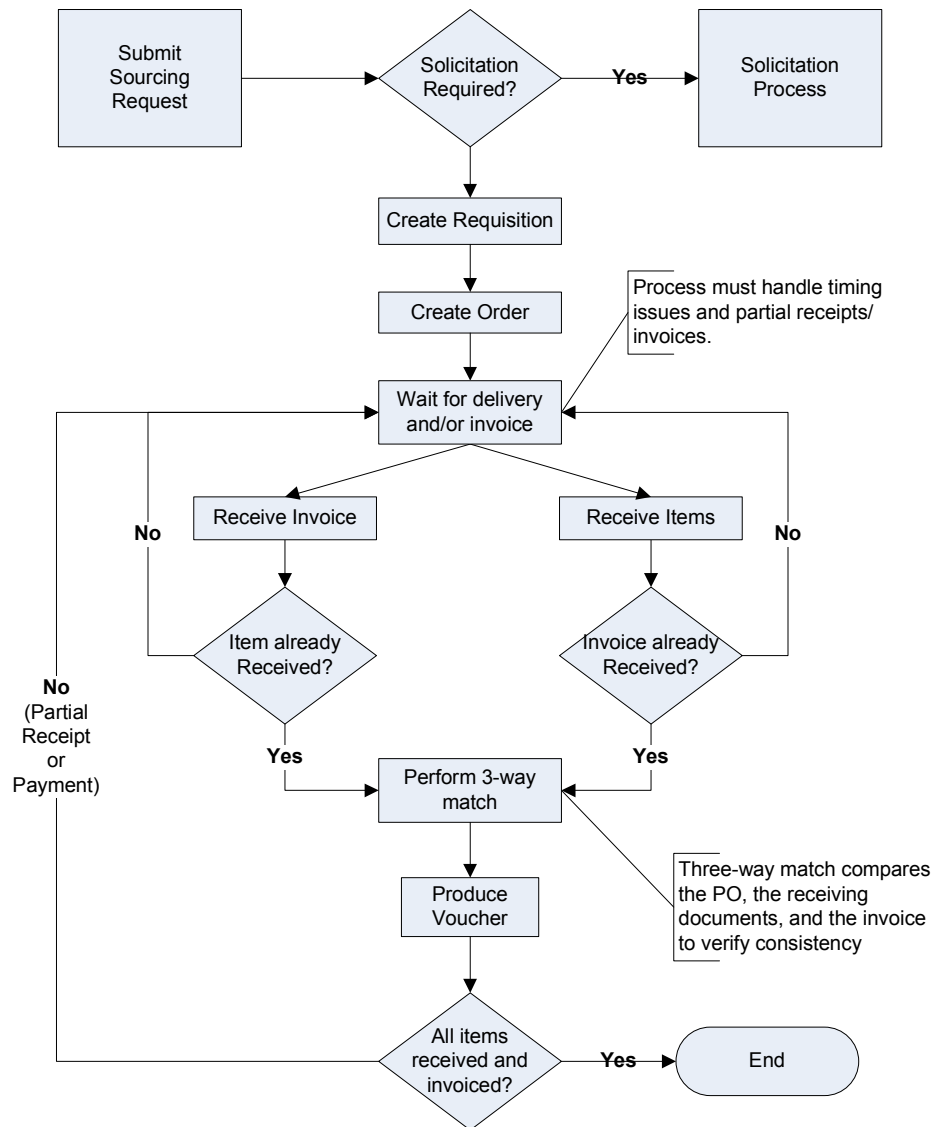


Figure 1 Order to Payment Process

Definitions

Attribute: An attribute is a specific characteristic that describes an entity (e.g. customer name, employer identification number, commodity code, etc)).

Concatenation: the state of being linked together as in a chain; union in a linked series. These are data attributes typically joined together to create uniqueness. (e.g. combining tax identification type and tax identifier to ensure identification numbers issued by Social Security and the IRS are unique).

Data Dictionary: A data dictionary is a centralized repository of information about data such as meaning, relationships to other data, origin, usage, and format." (ACM, IBM Dictionary of Computing, 10th edition, 1993) A data dictionary includes such items as complete and accurate definitions of both entities and attributes, attribute domains, valid values, synonyms or aliases, default values, data type and length, required/not required constraints, etc.

Data Owner: The Agency Data Owners define, manage and control the use of data within their organizations. The Agency Head or designee designates the Agency Data Owner(s) for the functional/subject areas within their jurisdictional control or authority. They also ensure adequate resources for Agency Data Owners to effectively develop and maintain their respective functional/subject areas in support of the Commonwealth's Data Management Program.

Data Steward: A data steward is the person assigned by an agency to represent the agency's interagency data needs and ensure that proposed standards meets those needs. The Agency Data Steward works on behalf of their Agency Data Owner. The data steward should have a broad understanding of the agency's data, be able to research data usage, and be empowered to obtain agreement from data owners and speak authoritatively for the agency.

Entity: A person, place, thing, event or concept identified by the user or the business as in independent existence, and can be uniquely identified (e.g. Customer, Vendor, and Address).

Entity Relationship Model (ERM): An entity-relationship diagram is an abstract representation of structured data, which produces a conceptual data model of a system, and its requirements. The actual model is frequently called an "Entity Relationship Model", because it depicts data in terms of the entities and relationships described in the data. An ERD (the diagram of the model) may also be referred to as an Entity Relationship Model (ERM) or a logical data model (LDM).

eVA: The Commonwealth's enterprise electronic procurement system.

Primary Key: A primary key is an attribute that uniquely identifies each instance of the entity. For example, for each vendor location must be identifiable as a location and therefore each location has a unique number to identify it.

Relationship: A relationship is an association between entities that is relevant to the constraints, rules and policies of the business. Relationships can be thought of as verbs, linking two or more nouns. Examples: an *owns* relationship between a company and a computer, a *supervises* relationship between an employee and a department, a *performs* relationship between an artist and a song, a *proved* relationship between a mathematician and a theorem.

Vendor:

1. **Procurement Vendor:** A Procurement Vendor is an individual, public body, or business that desires to sell goods or services to the Commonwealth. (Note: With the exception of the first paragraph in the Scope section, within this document the term “vendor” used by itself means “procurement vendor.”)
 - a. Self Registered Vendor: Is a Procurement Vendor that has entered into a registration agreement to participate in the Commonwealth’s enterprise procurement processes.
 - b. State Entered Vendor: Is a Procurement Vendor that has not entered into a registration agreement to participate in the Commonwealth’s enterprise procurement processes but has been entered into eVA by the Commonwealth.

Fiscal Vendor: A vendor who requires payment will appear in the fiscal payee file along with other non-vendor payees such as grantees, customer’s requiring refunds, employees as well as others requiring a payment not associated with the purchase of goods and services

Vendor Location Standard Name: The name used across the Commonwealth in processing orders and payments to the vendor location.

Voucher: A document indicating that due diligence has been performed in verifying the accuracy of receipts and invoicing and directing that a warrant be issued.

Warrant: An authorization to pay by the Commonwealth of Virginia.

(as of Jan 25, 2010)

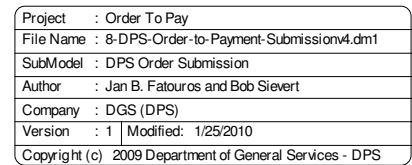


Figure 2 Ordering Data Model

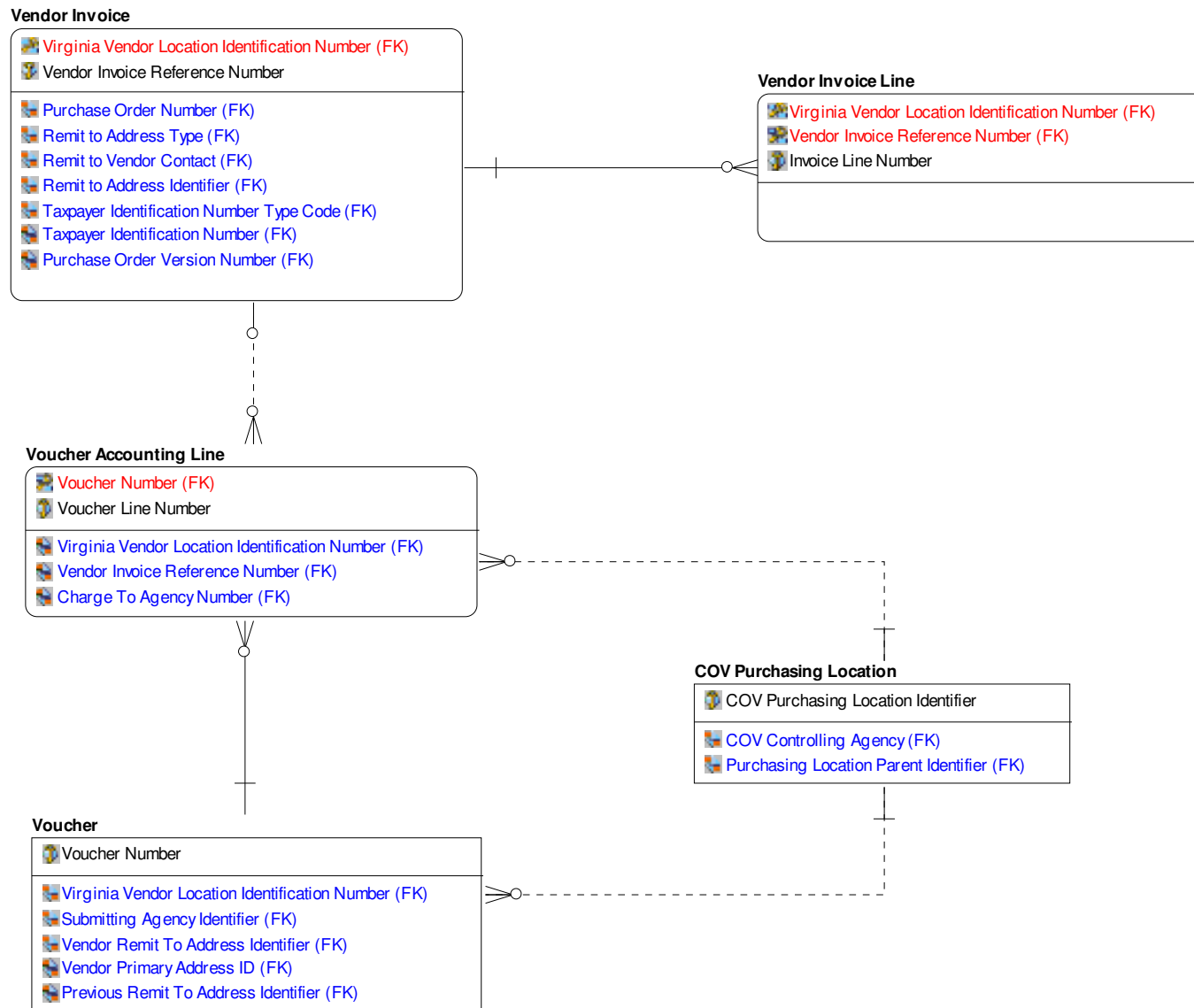


Figure 3 Payment Data Model

Entity Relationship Model (ERD) Overview

The Order to Payment ERD graphically represents the information that is required to support ordering and payment business processes addressed by this data standard. Detailed definitions for each entity and attribute, attribute characteristics, mandatory requirements, and valid reference values are contained in the Order to Payment Data Dictionary. The Order to Payment Data Dictionary may be accessed at [{insert url here}](#). This overview provides a summary of the ERM and its key attributes.

The main data entities describing an order transaction are requisition, purchase order, receipt, and planned account distribution. The main data entities describing a payment transaction are invoice and voucher. The order to payment process also relies on vendor information which is described in the Procurement Vendor Data Standard. Current state policies require a matching of purchase order, to receipt, to vendor invoice prior to authorizing a payment.

The primary key for the **Requisition** entity is the requisition number and version. A requisition is a request for goods and or services. Requisitions are initiated by the individual that requires the good or service. The electronic capture of requisition information may begin with the requester or be entered by an individual designated to order goods and services (the preparer) on behalf of the requester. For both non-technology and technology goods and services it is Commonwealth policy that all requisitions begin in the Commonwealth's procurement system (eVA). A **Requisition** may produce orders to one or more vendor locations. Because one requisition may produce multiple purchase orders, each **Requisition Line** should have at least one **Planned Account Distribution** line. The **Requisition Line** entity describes the requirements for a specific good or service. A **Requisition Line** must suggest a vendor location, provide an appropriate National Institute of Governmental Purchasing (NIGP) commodity code, and provide a full description of the good or service including specification description, quantity, unit of measure, and unit price. Other attributes that may be required include contract number, supplier part number and manufacturer part number.

The **Planned Account Distribution** entity identifies the intended accounting allocation of the cost of the requisition and resulting purchase order line items using chart of account fields. The Department of Accounts (DOA) and agency fiscal officer determine the chart of account attributes, values, and required/optional characteristics of this information which shall be used at the time of requisition. As of this writing, DOA is revising the chart of accounts. The Planned Distribution Entity serves as a placeholder showing the current but not future data elements. When the new chart of accounts is available, the model will be updated to reflect the new data. This standard supports multi-fiscal year accounting by placing Funding Fiscal Year in the Planned Account Distribution Entity. The **Funding Fiscal Year** attribute identifies the fiscal year in which the requisition preparer plans to pay for the good or service. Capture of accounting information at the time of requisition provides an opportunity for the agency to automate financial approval prior to purchase and capture pre-encumbrance and encumbrance data for integration with the agency's financial system.

Once fully approved, a **Requisition** produces one or more purchase orders. The **Purchase Order** and **Purchase Order Line** entities fully describe the order and the contractual terms and conditions that apply to the order. The primary key for purchase order is **Purchase Order Number** and **Version**. The primary key for purchase order line is **Purchase Order Number**, **Version** and **Purchase Order Line Number**. To provide consistency across the Commonwealth, all purchase orders must include the **Vendor Location Standard Name**, **Vendor Location Identification Number**, and **TAX Identification Number** as contained in eVA. This means, no purchase order shall be issued to a vendor location that is not listed in eVA. The **Vendor Location Standard Name** is common to both purchase order information and vendor payment information.

Purchase Orders may require modifications. A purchase order that has been modified is commonly referred to as a “Change Order.” The standard identifies a change order by incrementing the purchase order version number. This standard requires that a change order fully replace the previous version of the order issued to the vendor. This means that the most recent Change Order inherits all receiving, accounting, and invoicing data from the previous versions. It also means that all new receiving, accounting, and invoicing actions will be applied to the most recent version.

Information about the receipt of goods and services are captured in the **Purchase Order Receipt** and **Purchase Order Receipt Line** entities. At a minimum receipts must capture the **purchase order** and **purchase order line number**, the **quantity received**, **receipt unit of measure**, the **received date** for the good or service, and the **receiver name**. The standard supports multiple receipts per purchase order line, which facilitates the requirement for partial payments against purchase orders. The standard requires electronic capture of receipt information.

The **Vendor Invoice** and **Vendor Invoice Line** Entity represents submission of a valid invoice by the vendor. This standard plans for the receipt of electronic invoices, but does not mandate implementation of electronic invoicing.

Vouchers and **Voucher Accounting Line** entities document the matching of orders, receipts, and vendor invoices and authorize the payment for a good or service. The **Voucher Accounting Line** defines how the cost should be distributed to COV accounts. The Requisition Planned Distribution Line is the basis for the Voucher Accounting Line, but the Voucher Accounting Line may be modified during voucher processing. To fully support Code of Virginia §§ 2.2-1115, the standard requires association of voucher lines to purchase order lines. Given the limitations of the current Commonwealth’s financial accounting system (CARS), this capability will not be mandatory for agencies that solely use CARS or for agencies that plan on retiring financial applications when the planned enterprise financial application is in production.